

Data Validation Checklist
Semivolatile Organic Analyses

Project: 35TH Avenue Superfund Site
 Laboratory: TestAmerica - Savannah, GA
 Method: SW-846 8270D Low-Level (PAH)
 Matrix: Soil
 Reviewer: Kelly Brannigan, URS Group, Inc.
 Concurrence¹: Martha Meyers-Lee, URS Group, Inc.

Project No: 10; 60430028
 Job ID.: 680-106803-3
 Associated Samples: Refer to **Attachment A** (Sample Summary)
 Date(s) Collected: 10/29/2014 – 10/30/2014
 Date: 08/25/2015
 Date: 08/31/2015

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ flag results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met (\leq 7 and 14 days from collection to extraction for aqueous and solid samples, respectively; \leq 40 days from extraction to analysis)? If not, then J/UJ flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J flag sample result.			✓	Except CV0971K-CS12" (680-106803-46) and CV0971K-CS18" (680-106803-47), all samples were analyzed at a dilution factor of 10 due to the nature of the sample matrix. Samples CV0971K-CS12" (680-106803-46) and CV0971K-CS18" (680-106803-47) were analyzed undiluted.	
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			
11. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.		✓		According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once a week, per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were target analytes detected in equipment/rinsate blanks?			✓		

¹ Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
13. Were analytes detected in samples below the blank contamination action level? If yes, U flag positive sample results <5x associated blank concentration (10x for common blank contaminants – phthalates)			✓	Blank contamination does not exist.	
14. Is a field duplicate associated with this Job?	✓			<ul style="list-style-type: none"> CV0971E-CSD12" (680-106803-53) is a field duplicate of CV0971E-CS12" (680-106803-52) CV0971K-CSD6" (680-106803-45) is a field duplicate of CV0971K-CS6" (680-106803-44) CV0971A-CSD18" (680-106803-59) is a field duplicate of CV0971A-CS18" (680-106803-58) 	
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to Attachment B (Field Duplicate Evaluation)	J
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270D) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2.	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? <ul style="list-style-type: none"> Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative. An initial calibration is to be associated with each sample analysis. A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument. 	✓			Instrument ID: CMSY <ul style="list-style-type: none"> Initial Calibration (ICAL) of 10/31/2014 Initial Calibration Verification (ICV) of 10/31/2014 @ 19:03 Continuing Calibration Verification (CCV) of 11/04/2014 @ 11:53 ICAL of 11/10/2014 ICV of 11/10/2014 @ 17:40 	
19. Were calibration results within laboratory/project specifications? <ul style="list-style-type: none"> ICAL (Criteria: ≤ 20 mean %RSD ($\leq 50\%$ for poor performers), OR $r \geq 0.995$, OR $r^2 \geq 0.99$, and RRF ≥ 0.050 (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If %RSD>20 ($>50\%$ for poor performers), or $r < 0.995$, or $r^2 < 0.995$, then J flag positive results and UJ flag non-detects If mean RRF <0.050 (<0.010 for poor performers), then J flag positive results and R flag non-detects (unless the lab analyzed a detectability check standard) ICV and CCV (ICV Criteria: $\leq \pm 30\%D$; CCV Criteria: $\leq \pm 20\%D$ ($\leq 50\%$ for poor performers) and RF ≥ 0.050 (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If %D> Control Limit ($>50\%$ for poor performers), then J flag positive results and UJ flag non-detects If RF <0.050 (<0.010 for poor performers), then UJ flag non-detected semivolatile target compounds 	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J flag positive results when %R >Upper Control Limit (UCL) and J/R flag results when %R <Lower Control Limit (LCL).	✓				
22. Were LCS/LCSD RPD within lab specifications? If no, J flag positive results and UJ flag non-detects			✓	LCS only	
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			Prep Batch 356474: 680-106803-55 (CV0971E-CS24"), MS/MSD	
25. For all analytes with native sample concentrations < 4 x spiking level, were MS and MSD recoveries within laboratory/project specifications? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> • If the native sample concentration >4x spiking level, then an evaluation of interference is not possible. • If either MS or MSD recovery meets control limits, qualification of data is not warranted. • MS and MSD %R<10: J and R Flag positive and ND results, respectively • MS and MSD %R>10 and <LCL: J Flag positive and UJ flag non-detect results • MS and MSD R% >UCL (or 140): J Flag positive results 		✓		CV0971E-CS24" (680-106803-55): 2-Methylnaphthalene @ 60 and 41 %R (42-130). Qualification of data not required ² .	
26. For all analytes with native sample concentrations < 4 x spiking level, were laboratory criteria met for precision during the MS and MSD analysis? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> • If the native sample concentration >4x spiking level, then an evaluation of interference is not possible. • If %RPD > UCL, J flag positive result and UJ flag non-detect result 		✓		CV0971E-CS24" (680-106803-55): Benzo[a]anthracene @ 51%RPD (<50). J-Flag positive result.	J
27. Were surrogate recoveries within lab/project specifications? <ul style="list-style-type: none"> • If %R for 1 Acid or BN surrogates <10, then J flag positive and R flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R >UCL, then J flag positive associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) 		✓		Surrogate o-terphenyl was not recovered (0%) during the analysis of all samples, except CV0971K-CS12" (680-106803-46) and CV0971K-CS18" (680-106803-47). All samples with a zero percent surrogate recovery were analyzed at a 10-fold dilution. Qualification of sample results is not warranted, as the surrogate compound was diluted out of the samples.	

² The recovery of either MS or MSD met control limits.

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
<ul style="list-style-type: none"> If 2 or more Acid or BN , with $1\%R > UCL$ and $1\%R \geq 10\%$, but $< LCL$, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) 					
<p>28. Were internal standard (IS) results within lab/project specifications?</p> <ul style="list-style-type: none"> If IS area counts are less than 50% of the midpoint calibration standard, then J flag positive and UJ flag non-detect associated sample results If IS area counts are greater than 100% of the midpoint calibration standard, then J flag positive results If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J flag positive and R flag non-detect results If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R flag associated data. The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met. 	✓				
29. Were lab comments included in report?	✓			Refer to Attachment C (Case Narrative)	

Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review* (EPA, October 1999) and *USEPA CLP NFG for Low Concentration Organic Methods Data Review* (EPA, June 2001). Sample results have been qualified based on the results of the data review process (**Attachment D**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.

DV Flag Definitions:

- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
- U The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
- UJ The analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A
SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-106803-3
Sdg Number: 680-106803-03

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-106803-41	CV0971AI-GS12"	Solid	10/29/2014 1445	10/31/2014 0934
680-106803-42	CV0971AI-GS18"	Solid	10/29/2014 1455	10/31/2014 0934
680-106803-43	CV0971AI-GS24"	Solid	10/29/2014 1500	10/31/2014 0934
680-106803-44	CV0971K-CS6"	Solid	10/29/2014 1630	10/31/2014 0934
680-106803-45	CV0971K-CSD6"	Solid	10/29/2014 1635	10/31/2014 0934
680-106803-46	CV0971K-CS12"	Solid	10/29/2014 1645	10/31/2014 0934
680-106803-47	CV0971K-CS18"	Solid	10/29/2014 1700	10/31/2014 0934
680-106803-48	CV0971K-CS24"	Solid	10/29/2014 1715	10/31/2014 0934
680-106803-49	FM0161AVa-CSO-4"	Solid	10/30/2014 0930	10/31/2014 0934
680-106803-50	FM0161AVb-CSO-4"	Solid	10/30/2014 0945	10/31/2014 0934
680-106803-51	CV0971E-CS6"	Solid	10/30/2014 1020	10/31/2014 0934
680-106803-52	CV0971E-CS12"	Solid	10/30/2014 1035	10/31/2014 0934
680-106803-53	CV0971E-CSD12"	Solid	10/30/2014 1040	10/31/2014 0934
680-106803-54	CV0971E-CS18"	Solid	10/30/2014 1050	10/31/2014 0934
680-106803-55	CV0971E-CS24"	Solid	10/30/2014 1105	10/31/2014 0934
680-106803-55MS	CV0971E-CS24"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-55MSD	CV0971E-CS24"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-56	CV0971A-CS6"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-57	CV0971A-CS12"	Solid	10/30/2014 1315	10/31/2014 0934
680-106803-58	CV0971A-CS18"	Solid	10/30/2014 1330	10/31/2014 0934
680-106803-59	CV0971A-CSD18"	Solid	10/30/2014 1335	10/31/2014 0934
680-106803-60	CV0971A-CS24"	Solid	10/30/2014 1400	10/31/2014 0934

ATTACHMENT B

FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0971K-CS6" 680-106803-44	RL	CV0971K-CSD6" 680-106803-45	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Anthracene	41 J	79		79	µg/kg	395	NA	41	158	None, absolute difference ≤ 2x Avg RL
Benzo[a]anthracene	270	79	210	79	µg/kg	395	NA	60	158	None, absolute difference ≤ 2x Avg RL
Benzo[a]pyrene	280	79	250	79	µg/kg	395	NA	30	158	None, absolute difference ≤ 2x Avg RL
Benzo[b]fluoranthene	470	79	560	79	µg/kg	395	17	NA	NA	None, RPD ≤ 50%
Benzo[g,h,i]perylene	190	79	140	79	µg/kg	395	NA	50	158	None, absolute difference ≤ 2x Avg RL
Benzo[k]fluoranthene	120	79	200	79	µg/kg	395	NA	80	158	None, absolute difference ≤ 2x Avg RL
Chrysene	300	79	310	79	µg/kg	395	NA	10	158	None, absolute difference ≤ 2x Avg RL
Dibenz(a,h)anthracene	59 J	79	70 J	79	µg/kg	395	NA	11	158	None, absolute difference ≤ 2x Avg RL
Fluoranthene	470	79	240	79	µg/kg	395	NA	230	158	J/UJ-flag, absolute difference > 2x Avg RL
Indeno[1,2,3-cd]pyrene	140	79	110	79	µg/kg	395	NA	30	158	None, absolute difference ≤ 2x Avg RL
1-Methylnaphthalene	64 J	79	37 J	79	µg/kg	395	NA	27	158	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	67 J	79		79	µg/kg	395	NA	67	158	None, absolute difference ≤ 2x Avg RL
Naphthalene	46 J	79		79	µg/kg	395	NA	46	158	None, absolute difference ≤ 2x Avg RL
Phenanthrene	240	79	84	79	µg/kg	395	NA	156	158	None, absolute difference ≤ 2x Avg RL
Pyrene	540	79	390	79	µg/kg	395	NA	150	158	None, absolute difference ≤ 2x Avg RL

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0971E-CS12" 680-106803-52	RL	CV0971E-CSD12" 680-106803-53	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Benzo[a]anthracene	47 J	77	130	77	µg/kg	385	NA	83	154	None, absolute difference ≤ 2x Avg RL
Benzo[a]pyrene	53 J	77	140	77	µg/kg	385	NA	87	154	None, absolute difference ≤ 2x Avg RL
Benzo[b]fluoranthene	88	77	220	77	µg/kg	385	NA	132	154	None, absolute difference ≤ 2x Avg RL
Benzo[g,h,i]perylene	50 J	77	110	77	µg/kg	385	NA	60	154	None, absolute difference ≤ 2x Avg RL
Benzo[k]fluoranthene	25 J	77	83	77	µg/kg	385	NA	58	154	None, absolute difference ≤ 2x Avg RL
Chrysene	63 J	77	160	77	µg/kg	385	NA	97	154	None, absolute difference ≤ 2x Avg RL
Dibenz(a,h)anthracene		77	42 J	77	µg/kg	385	NA	42	154	None, absolute difference ≤ 2x Avg RL
Fluoranthene	73 J	77	210	77	µg/kg	385	NA	137	154	None, absolute difference ≤ 2x Avg RL
Indeno[1,2,3-cd]pyrene	39 J	77	78	77	µg/kg	385	NA	39	154	None, absolute difference ≤ 2x Avg RL
1-Methylnaphthalene		77	38 J	77	µg/kg	385	NA	38	154	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene		77	43 J	77	µg/kg	385	NA	43	154	None, absolute difference ≤ 2x Avg RL
Phenanthrene	58 J	77	170	77	µg/kg	385	NA	112	154	None, absolute difference ≤ 2x Avg RL
Pyrene	94	77	220	77	µg/kg	385	NA	126	154	None, absolute difference ≤ 2x Avg RL

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0971A-CS18" 680-106803-58	RL	CV0971A-CSD18" 680-106803-59	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Benzo[a]anthracene	83	76	150	76	µg/kg	380	NA	67	152	None, absolute difference ≤ 2x Avg RL
Benzo[a]pyrene	80	76	170	76	µg/kg	380	NA	90	152	None, absolute difference ≤ 2x Avg RL
Benzo[b]fluoranthene	130	76	240	76	µg/kg	380	NA	110	152	None, absolute difference ≤ 2x Avg RL
Benzo[g,h,i]perylene	56 J	76	110	76	µg/kg	380	NA	54	152	None, absolute difference ≤ 2x Avg RL
Benzo[k]fluoranthene	47 J	76	86	76	µg/kg	380	NA	39	152	None, absolute difference ≤ 2x Avg RL
Chrysene	100	76	160	76	µg/kg	380	NA	60	152	None, absolute difference ≤ 2x Avg RL
Dibenz(a,h)anthracene		76	40 J	76	µg/kg	380	NA	40	152	None, absolute difference ≤ 2x Avg RL
Fluoranthene	120	76	250	76	µg/kg	380	NA	130	152	None, absolute difference ≤ 2x Avg RL
Indeno[1,2,3-cd]pyrene	48 J	76	95	76	µg/kg	380	NA	47	152	None, absolute difference ≤ 2x Avg RL
Phenanthrene	62 J	76	140	76	µg/kg	380	NA	78	152	None, absolute difference ≤ 2x Avg RL
Pyrene	110	76	230	76	µg/kg	380	NA	120	152	None, absolute difference ≤ 2x Avg RL

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C
CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-106803-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 10/31/2014 9:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.6° C, 4.2° C and 4.4° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0971A-CS6" (680-106803-56), CV0971AI-GS24" (680-106803-43), CV0971E-CS24" (680-106803-55), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CS24" (680-106803-60), CV0971A-CSD18" (680-106803-59), CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971E-CS12" (680-106803-52), CV0971E-CS18" (680-106803-54), CV0971E-CS6" (680-106803-51), CV0971E-CSD12" (680-106803-53).

Method(s) 8270D_LL_PAH: The following sample(s) was diluted due to the nature of the sample matrix: CV0971A-CS6" (680-106803-56), CV0971AI-GS24" (680-106803-43), CV0971E-CS24" (680-106803-55), CV0971K-CS24" (680-106803-48), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CS24" (680-106803-60), CV0971A-CSD18" (680-106803-59), CV0971E-CS24" (680-106803-55 MS), CV0971E-CS12" (680-106803-52), CV0971E-CS18" (680-106803-54), CV0971E-CS6" (680-106803-51), CV0971E-CSD12" (680-106803-53). Because of this dilution, the surrogate spikes are not reported.

Method(s) 8270D_LL_PAH: The following sample(s) was diluted due to the nature of the sample matrix: CV0971E-CS24" (680-106803-55 MS). As such, surrogate and MS/MSD spike recoveries were diluted out and are not reported.

2-Methylnaphthalene recovery is outside criteria low for the MSD of sample CV0971E-CS24"MSD (680-106803-55) in batch 680-356857. Benzo[a]anthracene exceeded the RPD limit.

Refer to the QC report for details.

METALS (ICP)

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C.

Iron recovery is outside criteria low for the MS of sample CV0971E-CS24"MS (680-106803-55) in batch 680-357015.

Aluminum, Arsenic, Iron and Lead have recovery outside criteria high for the MS and/or MSD of sample CV0971E-CS24"MSD (680-106803-55) in batch 680-357015.

Refer to the QC report for details.

PERCENT SOLIDS/MOISTURE

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

ATTACHMENT D
QUALIFIED SAMPLE RESULTS

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971AI-GS12"

Lab Sample ID: 680-106803-41

Matrix: Solid

Lab File ID: 1YK0410.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 14:45

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 16:25

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 15.9

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	80	U	80	39
208-96-8	Acenaphthylene	80	U	80	39
120-12-7	Anthracene	80	U	80	39
56-55-3	Benzo[a]anthracene	210		80	39
50-32-8	Benzo[a]pyrene	290		80	14
205-99-2	Benzo[b]fluoranthene	400		80	39
191-24-2	Benzo[g,h,i]perylene	210		80	39
207-08-9	Benzo[k]fluoranthene	140		80	24
218-01-9	Chrysene	270		80	39
53-70-3	Dibenz(a,h)anthracene	79	J	80	39
206-44-0	Fluoranthene	370		80	39
86-73-7	Fluorene	80	U	80	39
193-39-5	Indeno[1,2,3-cd]pyrene	180		80	39
90-12-0	1-Methylnaphthalene	37	J	80	37
91-57-6	2-Methylnaphthalene	42	J	80	39
91-20-3	Naphthalene	80	U	80	39
85-01-8	Phenanthrene	170		80	29
129-00-0	Pyrene	350		80	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971AI-GS18"

Lab Sample ID: 680-106803-42

Matrix: Solid

Lab File ID: 1YK0411.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 14:55

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 16:48

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 16.1

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	80	U	80	39
208-96-8	Acenaphthylene	80	U	80	39
120-12-7	Anthracene	80	U	80	39
56-55-3	Benzo[a]anthracene	200		80	39
50-32-8	Benzo[a]pyrene	220		80	14
205-99-2	Benzo[b]fluoranthene	340		80	39
191-24-2	Benzo[g,h,i]perylene	170		80	39
207-08-9	Benzo[k]fluoranthene	120		80	24
218-01-9	Chrysene	250		80	39
53-70-3	Dibenz(a,h)anthracene	61	J	80	39
206-44-0	Fluoranthene	330		80	39
86-73-7	Fluorene	80	U	80	39
193-39-5	Indeno[1,2,3-cd]pyrene	130		80	39
90-12-0	1-Methylnaphthalene	80	U	80	37
91-57-6	2-Methylnaphthalene	43	J	80	39
91-20-3	Naphthalene	80	U	80	39
85-01-8	Phenanthrene	150		80	29
129-00-0	Pyrene	320		80	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971AI-GS24"

Lab Sample ID: 680-106803-43

Matrix: Solid

Lab File ID: 1YK0412.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 15:00

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 17:11

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 16.6

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	80	U	80	40
208-96-8	Acenaphthylene	80	U	80	40
120-12-7	Anthracene	45	J	80	40
56-55-3	Benzo[a]anthracene	250		80	40
50-32-8	Benzo[a]pyrene	300		80	14
205-99-2	Benzo[b]fluoranthene	530		80	40
191-24-2	Benzo[g,h,i]perylene	210		80	40
207-08-9	Benzo[k]fluoranthene	190		80	24
218-01-9	Chrysene	340		80	40
53-70-3	Dibenz(a,h)anthracene	92		80	40
206-44-0	Fluoranthene	460		80	40
86-73-7	Fluorene	80	U	80	40
193-39-5	Indeno[1,2,3-cd]pyrene	170		80	40
90-12-0	1-Methylnaphthalene	56	J	80	37
91-57-6	2-Methylnaphthalene	67	J	80	40
91-20-3	Naphthalene	55	J	80	40
85-01-8	Phenanthrene	240		80	29
129-00-0	Pyrene	440		80	40

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971K-CS6"

Lab Sample ID: 680-106803-44

Matrix: Solid

Lab File ID: 1YK0413.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 16:30

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 17:34

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 15.6

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	41	J	79	39
56-55-3	Benzo[a]anthracene	270		79	39
50-32-8	Benzo[a]pyrene	280		79	14
205-99-2	Benzo[b]fluoranthene	470		79	39
191-24-2	Benzo[g,h,i]perylene	190		79	39
207-08-9	Benzo[k]fluoranthene	120		79	24
218-01-9	Chrysene	300		79	39
53-70-3	Dibenz(a,h)anthracene	59	J	79	39
206-44-0	Fluoranthene	470	J	79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	140		79	39
90-12-0	1-Methylnaphthalene	64	J	79	37
91-57-6	2-Methylnaphthalene	67	J	79	39
91-20-3	Naphthalene	46	J	79	39
85-01-8	Phenanthrene	240		79	28
129-00-0	Pyrene	540		79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971K-CSD6"

Lab Sample ID: 680-106803-45

Matrix: Solid

Lab File ID: 1YK0414.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 16:35

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 17:56

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 15.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	79	U	79	39
56-55-3	Benzo[a]anthracene	210		79	39
50-32-8	Benzo[a]pyrene	250		79	14
205-99-2	Benzo[b]fluoranthene	560		79	39
191-24-2	Benzo[g,h,i]perylene	140		79	39
207-08-9	Benzo[k]fluoranthene	200		79	24
218-01-9	Chrysene	310		79	39
53-70-3	Dibenz(a,h)anthracene	70	J	79	39
206-44-0	Fluoranthene	240	J	79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	110		79	39
90-12-0	1-Methylnaphthalene	37	J	79	36
91-57-6	2-Methylnaphthalene	79	U	79	39
91-20-3	Naphthalene	79	U	79	39
85-01-8	Phenanthrene	84		79	28
129-00-0	Pyrene	390		79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971K-CS12"

Lab Sample ID: 680-106803-46

Matrix: Solid

Lab File ID: 1YK0415.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 16:45

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 18:18

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 12.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.8
208-96-8	Acenaphthylene	7.6	U	7.6	3.8
120-12-7	Anthracene	5.5	J	7.6	3.8
56-55-3	Benzo[a]anthracene	27		7.6	3.8
50-32-8	Benzo[a]pyrene	28		7.6	1.4
205-99-2	Benzo[b]fluoranthene	49		7.6	3.8
191-24-2	Benzo[g,h,i]perylene	24		7.6	3.8
207-08-9	Benzo[k]fluoranthene	15		7.6	2.3
218-01-9	Chrysene	34		7.6	3.8
53-70-3	Dibenz(a,h)anthracene	8.5		7.6	3.8
206-44-0	Fluoranthene	51		7.6	3.8
86-73-7	Fluorene	7.7		7.6	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	15		7.6	3.8
90-12-0	1-Methylnaphthalene	50		7.6	3.5
91-57-6	2-Methylnaphthalene	84		7.6	3.8
91-20-3	Naphthalene	22		7.6	3.8
85-01-8	Phenanthrene	51		7.6	2.7
129-00-0	Pyrene	55		7.6	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	86		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971K-CS18"

Lab Sample ID: 680-106803-47

Matrix: Solid

Lab File ID: 1YK0416.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 17:00

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 18:41

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 19.1

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.3	U	8.3	4.1
208-96-8	Acenaphthylene	8.3	U	8.3	4.1
120-12-7	Anthracene	8.3	U	8.3	4.1
56-55-3	Benzo[a]anthracene	29		8.3	4.1
50-32-8	Benzo[a]pyrene	35		8.3	1.5
205-99-2	Benzo[b]fluoranthene	61		8.3	4.1
191-24-2	Benzo[g,h,i]perylene	30		8.3	4.1
207-08-9	Benzo[k]fluoranthene	21		8.3	2.5
218-01-9	Chrysene	41		8.3	4.1
53-70-3	Dibenz(a,h)anthracene	13		8.3	4.1
206-44-0	Fluoranthene	39		8.3	4.1
86-73-7	Fluorene	8.3	U	8.3	4.1
193-39-5	Indeno[1,2,3-cd]pyrene	20		8.3	4.1
90-12-0	1-Methylnaphthalene	17		8.3	3.8
91-57-6	2-Methylnaphthalene	19		8.3	4.1
91-20-3	Naphthalene	12		8.3	4.1
85-01-8	Phenanthrene	35		8.3	3.0
129-00-0	Pyrene	44		8.3	4.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	76		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971K-CS24"

Lab Sample ID: 680-106803-48

Matrix: Solid

Lab File ID: 1YK0417.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/29/2014 17:15

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 19:03

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 25.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	90	U	90	44
208-96-8	Acenaphthylene	90	U	90	44
120-12-7	Anthracene	90	U	90	44
56-55-3	Benzo[a]anthracene	90	U	90	44
50-32-8	Benzo[a]pyrene	41	J	90	16
205-99-2	Benzo[b]fluoranthene	67	J	90	44
191-24-2	Benzo[g,h,i]perylene	90	U	90	44
207-08-9	Benzo[k]fluoranthene	90	U	90	27
218-01-9	Chrysene	50	J	90	44
53-70-3	Dibenz(a,h)anthracene	90	U	90	44
206-44-0	Fluoranthene	61	J	90	44
86-73-7	Fluorene	90	U	90	44
193-39-5	Indeno[1,2,3-cd]pyrene	90	U	90	44
90-12-0	1-Methylnaphthalene	90	U	90	42
91-57-6	2-Methylnaphthalene	90	U	90	44
91-20-3	Naphthalene	90	U	90	44
85-01-8	Phenanthrene	55	J	90	32
129-00-0	Pyrene	64	J	90	44

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: FM0161AVa-CSO-4"

Lab Sample ID: 680-106803-49

Matrix: Solid

Lab File ID: 1YK0418.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 09:30

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 19:26

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 19.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U	83	41
208-96-8	Acenaphthylene	83	U	83	41
120-12-7	Anthracene	83	U	83	41
56-55-3	Benzo[a]anthracene	85		83	41
50-32-8	Benzo[a]pyrene	89		83	15
205-99-2	Benzo[b]fluoranthene	150		83	41
191-24-2	Benzo[g,h,i]perylene	69	J	83	41
207-08-9	Benzo[k]fluoranthene	43	J	83	25
218-01-9	Chrysene	110		83	41
53-70-3	Dibenz(a,h)anthracene	83	U	83	41
206-44-0	Fluoranthene	140		83	41
86-73-7	Fluorene	83	U	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	47	J	83	41
90-12-0	1-Methylnaphthalene	83	U	83	38
91-57-6	2-Methylnaphthalene	83	U	83	41
91-20-3	Naphthalene	83	U	83	41
85-01-8	Phenanthrene	87		83	30
129-00-0	Pyrene	160		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: FM0161AVb-CSO-4"

Lab Sample ID: 680-106803-50

Matrix: Solid

Lab File ID: 1YK0419.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 09:45

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 19:49

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 15.8

GPC Cleanup: (Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	80	U	80	39
208-96-8	Acenaphthylene	80	U	80	39
120-12-7	Anthracene	80	U	80	39
56-55-3	Benzo[a]anthracene	140		80	39
50-32-8	Benzo[a]pyrene	130		80	14
205-99-2	Benzo[b]fluoranthene	220		80	39
191-24-2	Benzo[g,h,i]perylene	98		80	39
207-08-9	Benzo[k]fluoranthene	76	J	80	24
218-01-9	Chrysene	170		80	39
53-70-3	Dibenz(a,h)anthracene	45	J	80	39
206-44-0	Fluoranthene	230		80	39
86-73-7	Fluorene	80	U	80	39
193-39-5	Indeno[1,2,3-cd]pyrene	71	J	80	39
90-12-0	1-Methylnaphthalene	80	U	80	37
91-57-6	2-Methylnaphthalene	39	J	80	39
91-20-3	Naphthalene	80	U	80	39
85-01-8	Phenanthrene	150		80	28
129-00-0	Pyrene	270		80	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971E-CS6"

Lab Sample ID: 680-106803-51

Matrix: Solid

Lab File ID: 1YK0420.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 10:20

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 20:12

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 14.8

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	79	U	79	39
56-55-3	Benzo[a]anthracene	140		79	39
50-32-8	Benzo[a]pyrene	160		79	14
205-99-2	Benzo[b]fluoranthene	290		79	39
191-24-2	Benzo[g,h,i]perylene	130		79	39
207-08-9	Benzo[k]fluoranthene	90		79	23
218-01-9	Chrysene	190		79	39
53-70-3	Dibenz(a,h)anthracene	54	J	79	39
206-44-0	Fluoranthene	260		79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	92		79	39
90-12-0	1-Methylnaphthalene	61	J	79	36
91-57-6	2-Methylnaphthalene	63	J	79	39
91-20-3	Naphthalene	49	J	79	39
85-01-8	Phenanthrene	180		79	28
129-00-0	Pyrene	300		79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971E-CS12"

Lab Sample ID: 680-106803-52

Matrix: Solid

Lab File ID: 1YK0421.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 10:35

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.02(g)

Date Analyzed: 11/04/2014 20:35

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 13.6

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	47	J	77	38
50-32-8	Benzo[a]pyrene	53	J	77	14
205-99-2	Benzo[b]fluoranthene	88		77	38
191-24-2	Benzo[g,h,i]perylene	50	J	77	38
207-08-9	Benzo[k]fluoranthene	25	J	77	23
218-01-9	Chrysene	63	J	77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	73	J	77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	39	J	77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	58	J	77	28
129-00-0	Pyrene	94		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971E-CSD12"

Lab Sample ID: 680-106803-53

Matrix: Solid

Lab File ID: 1YK0422.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 10:40

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 20:58

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 13.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	130		77	38
50-32-8	Benzo[a]pyrene	140		77	14
205-99-2	Benzo[b]fluoranthene	220		77	38
191-24-2	Benzo[g,h,i]perylene	110		77	38
207-08-9	Benzo[k]fluoranthene	83		77	23
218-01-9	Chrysene	160		77	38
53-70-3	Dibenz(a,h)anthracene	42	J	77	38
206-44-0	Fluoranthene	210		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	78		77	38
90-12-0	1-Methylnaphthalene	38	J	77	36
91-57-6	2-Methylnaphthalene	43	J	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	170		77	28
129-00-0	Pyrene	220		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971E-CS18"

Lab Sample ID: 680-106803-54

Matrix: Solid

Lab File ID: 1YK0423.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 10:50

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/04/2014 21:21

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 13.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	62	J	77	38
50-32-8	Benzo[a]pyrene	59	J	77	14
205-99-2	Benzo[b]fluoranthene	130		77	38
191-24-2	Benzo[g,h,i]perylene	62	J	77	38
207-08-9	Benzo[k]fluoranthene	47	J	77	23
218-01-9	Chrysene	100		77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	97		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	45	J	77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	82		77	28
129-00-0	Pyrene	110		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	X	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971E-CS24"

Lab Sample ID: 680-106803-55

Matrix: Solid

Lab File ID: 1YK0409.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 11:05

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.04(g)

Date Analyzed: 11/04/2014 16:03

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 13.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	52	J	77	38
50-32-8	Benzo[a]pyrene	52	J	77	14
205-99-2	Benzo[b]fluoranthene	96		77	38
191-24-2	Benzo[g,h,i]perylene	52	J	77	38
207-08-9	Benzo[k]fluoranthene	34	J	77	23
218-01-9	Chrysene	72	J	77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	79		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	77	U	77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	59	J	77	28
129-00-0	Pyrene	75	J	77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971A-CS6"

Lab Sample ID: 680-106803-56

Matrix: Solid

Lab File ID: 1YK0424.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 13:00

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.04(g)

Date Analyzed: 11/04/2014 21:43

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 15.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 356857

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	80		79	39
56-55-3	Benzo[a]anthracene	330		79	39
50-32-8	Benzo[a]pyrene	370		79	14
205-99-2	Benzo[b]fluoranthene	650		79	39
191-24-2	Benzo[g,h,i]perylene	330		79	39
207-08-9	Benzo[k]fluoranthene	210		79	24
218-01-9	Chrysene	420		79	39
53-70-3	Dibenz(a,h)anthracene	91		79	39
206-44-0	Fluoranthene	620		79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	260		79	39
90-12-0	1-Methylnaphthalene	86		79	37
91-57-6	2-Methylnaphthalene	97		79	39
91-20-3	Naphthalene	84		79	39
85-01-8	Phenanthrene	540		79	28
129-00-0	Pyrene	750		79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971A-CS12"

Lab Sample ID: 680-106803-57

Matrix: Solid

Lab File ID: 3YK1025.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 13:15

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.03(g)

Date Analyzed: 11/10/2014 23:35

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 10.6

GPC Cleanup:(Y/N) N

Analysis Batch No.: 357882

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	75	U	75	37
208-96-8	Acenaphthylene	75	U	75	37
120-12-7	Anthracene	39	J	75	37
56-55-3	Benzo[a]anthracene	210		75	37
50-32-8	Benzo[a]pyrene	200		75	13
205-99-2	Benzo[b]fluoranthene	330		75	37
191-24-2	Benzo[g,h,i]perylene	140		75	37
207-08-9	Benzo[k]fluoranthene	110		75	22
218-01-9	Chrysene	230		75	37
53-70-3	Dibenz(a,h)anthracene	42	J	75	37
206-44-0	Fluoranthene	330		75	37
86-73-7	Fluorene	75	U	75	37
193-39-5	Indeno[1,2,3-cd]pyrene	110		75	37
90-12-0	1-Methylnaphthalene	42	J	75	35
91-57-6	2-Methylnaphthalene	44	J	75	37
91-20-3	Naphthalene	75	U	75	37
85-01-8	Phenanthrene	180		75	27
129-00-0	Pyrene	290		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971A-CS18"

Lab Sample ID: 680-106803-58

Matrix: Solid

Lab File ID: 3YK1026.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 13:30

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/10/2014 23:57

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 11.9

GPC Cleanup:(Y/N) N

Analysis Batch No.: 357882

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	76	U	76	37
208-96-8	Acenaphthylene	76	U	76	37
120-12-7	Anthracene	76	U	76	37
56-55-3	Benzo[a]anthracene	83		76	37
50-32-8	Benzo[a]pyrene	80		76	14
205-99-2	Benzo[b]fluoranthene	130		76	37
191-24-2	Benzo[g,h,i]perylene	56	J	76	37
207-08-9	Benzo[k]fluoranthene	47	J	76	23
218-01-9	Chrysene	100		76	37
53-70-3	Dibenz(a,h)anthracene	76	U	76	37
206-44-0	Fluoranthene	120		76	37
86-73-7	Fluorene	76	U	76	37
193-39-5	Indeno[1,2,3-cd]pyrene	48	J	76	37
90-12-0	1-Methylnaphthalene	76	U	76	35
91-57-6	2-Methylnaphthalene	76	U	76	37
91-20-3	Naphthalene	76	U	76	37
85-01-8	Phenanthrene	62	J	76	27
129-00-0	Pyrene	110		76	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971A-CSD18"

Lab Sample ID: 680-106803-59

Matrix: Solid

Lab File ID: 3YK1027.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 13:35

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.04(g)

Date Analyzed: 11/11/2014 00:19

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 12.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 357882

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	76	U	76	38
208-96-8	Acenaphthylene	76	U	76	38
120-12-7	Anthracene	76	U	76	38
56-55-3	Benzo[a]anthracene	150		76	38
50-32-8	Benzo[a]pyrene	170		76	14
205-99-2	Benzo[b]fluoranthene	240		76	38
191-24-2	Benzo[g,h,i]perylene	110		76	38
207-08-9	Benzo[k]fluoranthene	86		76	23
218-01-9	Chrysene	160		76	38
53-70-3	Dibenz(a,h)anthracene	40	J	76	38
206-44-0	Fluoranthene	250		76	38
86-73-7	Fluorene	76	U	76	38
193-39-5	Indeno[1,2,3-cd]pyrene	95		76	38
90-12-0	1-Methylnaphthalene	76	U	76	35
91-57-6	2-Methylnaphthalene	76	U	76	38
91-20-3	Naphthalene	76	U	76	38
85-01-8	Phenanthrene	140		76	27
129-00-0	Pyrene	230		76	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106803-3

SDG No.: 680-106803-03

Client Sample ID: CV0971A-CS24"

Lab Sample ID: 680-106803-60

Matrix: Solid

Lab File ID: 3YK1028.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/30/2014 14:00

Extract. Method: 3546

Date Extracted: 11/01/2014 15:41

Sample wt/vol: 30.01(g)

Date Analyzed: 11/11/2014 00:42

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 11.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 357882

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	76	U	76	37
208-96-8	Acenaphthylene	76	U	76	37
120-12-7	Anthracene	76	U	76	37
56-55-3	Benzo[a]anthracene	57	J	76	37
50-32-8	Benzo[a]pyrene	70	J	76	14
205-99-2	Benzo[b]fluoranthene	120		76	37
191-24-2	Benzo[g,h,i]perylene	76	U	76	37
207-08-9	Benzo[k]fluoranthene	38	J	76	23
218-01-9	Chrysene	76		76	37
53-70-3	Dibenz(a,h)anthracene	76	U	76	37
206-44-0	Fluoranthene	83		76	37
86-73-7	Fluorene	76	U	76	37
193-39-5	Indeno[1,2,3-cd]pyrene	39	J	76	37
90-12-0	1-Methylnaphthalene	76	U	76	35
91-57-6	2-Methylnaphthalene	76	U	76	37
91-20-3	Naphthalene	76	U	76	37
85-01-8	Phenanthrene	57	J	76	27
129-00-0	Pyrene	76		76	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131